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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,016	10/21/2003	Justin R. Morris	12821.34USC2	5006

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EXAMINER	
GELLNER, JEFFREY L	

ART UNIT	PAPER NUMBER
3643	

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05/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/691,016	MORRIS ET AL.	
	Examiner	Art Unit	
	Jeffrey L. Gellner	3643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 March 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *38,42,46,47,51,52,54,58,63-75 and 83* is/are pending in the application.

4a) Of the above claim(s) *67-75* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *38, 42, 46, 47, 51, 52, 54, 58, 63-66, 83* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claim 38 is objected to because of the following informality:

In claim 38, line 4, "grapevine's" lack antecedent basis and should probably be --a grapevine's--.

Appropriate correction is required.

Claim Rejections - 35 USC §103

The following is a quotation of 35 U.S.C. §103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 38, 42, 46, is rejected under 35 U.S.C. §103(a) as being unpatentable over Brumat (US 4,257,213) in view of Green (US 3,232,034) in further view of Hiyama et al. (US 4,255,922) in further view of Facts for Fancy Fruit (96-06, Dep't of Hort., Purdue Univ.).

As to Claims 38, 42, and 83, Brumat discloses an apparatus for mechanized vineyard cultivation comprising a first tool mechanical pruner, a cutting tool ("operating arms for topping that are substitutable and interchangable" of col. 2 lines 18-26; 20 of Fig. 1) for removing a predetermined percentage of grapevine's canes and or shoots; a mechanical second tool shoot thinner, a striking tool ("operating arms intended for bud/sucker removal" of col. 2 lines 7-8 in that the suckers are removed; 20 of Fig. 5) capable of removing shoots below the grapevine's

cordon and spaced apart fro and above a base of the grapevine so as to remove a predetermined percentage of shoots. Not disclosed is a fruit thinning after shot thinning using a mechanical fruit thinner; harvesting using a mechanical harvester that is a shaking tool, where all the tools are mounted on a vehicle; and, pruning during a first period during dormancy, thinning during a second, different period, and fruit thinning during a third, different period. Green, however, discloses a fruit thinner (col. 6 lines 72-75) used after shoot thinning (from "effective for thinning fruit at any stage" of col. 6 lines 72-75); Hiyama et al. discloses a harvester that is a shaker (col. 18 lines 26-35); and, Fancy Fruit discloses pruning during dormancy and shoot thinning during a second, different period (from "Final Pruning and Shoot Removal in Grapes" of page 2). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the apparatus of Brumat by using the fruit thinner of Green so as to use more effective tools for each operation, and further, to mechanize the fruit thinner so as to reduce production costs by reducing labor costs, and to further modify the apparatus of Brumat by adding a mechanical harvester as disclosed by Hiyama et al. so as reduce costs of harvest and further to prune and shoot thin so as to balance fruit production (see "Final Pruning and Shoot Removal in Grapes" of page 2) and to further fruit thin so as to balance fruit production and to combine the tools on one vehicle so as to increase efficiency of use of farm vehicles. The apparatus of Brumat as modified by Green, Hiyama et al., and Fancy Fruit inherently discloses the method steps recited in claim 38.

As to claim 46, Brumat as modified by Green, Hiyama et al., and Fancy Fruit further disclose a plurality of strikers (27 of Brumat).

Claims 47, 51, 52, and 58 are rejected under 35 U.S.C. §103(a) as being unpatentable over Brumat (US 4,257,213) in view Green (US 3,232,034), Hiyama et al. (US 4,255,922), and Facts for Fancy Fruit (96-06, Dep't of Hort., Purdue Univ.) in further view of Mead et al. (US 4,383,400).

As to claim 47, the limitations of Claim 38 are disclosed as described above. Not disclosed is the method(apparatus) step comprising leaf removal. Mead et al., however, discloses an apparatus for leaf removal ("foliage trimming" of col. 2 lines 46-50). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the apparatus of Brumat as modified by Green, Hiyama et al., and Fancy Fruit by adding a means for leaf removal as disclosed by Mead et al. so as to promote higher yield (col. 1 lines 15-18).

As to claim 51, the limitations of Claim 39 are disclosed as described above. Not disclosed is the method(apparatus) step comprising a canopy adjustment by removing a portion of the canopy on a single curtain trellis. Mead et al., however, discloses an apparatus for removing a portion of the canopy ("foliage trimming" of col. 2 lines 46-50). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the apparatus of Brumat as modified by Green, Hiyama et al., and Fancy Fruit by adding a means for canopy adjustment (removal) as disclosed by Mead et al. so as to promote higher yield (col. 1 lines 15-18) and to use on a single curtain trellis depending upon the available type of trellis.

As to Claims 52 and 58, the limitations of claim 38 are disclosed as described above. Not disclosed is opening centers of a top portion and keeping the centers clean with a mechanical slapper and breaker unit; the grapes trained on GDC or divided canopy trellis systems. Mead et al. discloses opening centers of a top portion of the vine (Fig. 6, col. 3 lines 26-32 in that when

used with GDC or divided canopy trellises); and, it obvious to use a GDC trellis system as a common system. It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the apparatus of Brumat as modified by Green, Hiyama et al., and Fancy Fruit by using the fruit thinner of Green so as to use more effective tools for each operation; to open centers and maintain them open as disclosed by Mead et al. so as to remove unneeded foliage; and, to use the GDC or divided canopy trellis system as a common system, and to coordinate the mechanical operations to achieve a predetermined node density and yield because all agricultural methods are aimed at achieving desired yield and quality goals. The apparatus of Brumat as modified by Green, Hiyama et al., Fancy Fruit, and Mead et al. inherently discloses the method steps recited in claim 52.

Claim 54 is rejected under 35 U.S.C. §103(a) as being unpatentable over Brumat (US 4,257,213) in view of Green (US 3,232,034), Hiyama et al. (US 4,255,922), Facts for Fancy Fruit (96-06, Dep't of Hort., Purdue Univ.), and Mead et al. (US 4,383,400) in further view of Oldridge (US 5,101,618; 24th document on page 2 of Applicant's 1449).

As to claim 54, the limitations of Claim 52 are disclosed as described above. Not disclosed is a shoot positioner. Oldridge, however, discloses a shoot positioner (abstract). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the apparatus of Brumat as modified by Green, Hiyama et al, Fancy Fruit, and Mead et al. by adding a shoot positioner as disclosed by Oldridge so as to increase light penetration into the fruit zone (see Oldridge at col. 1 lines 9-12) and to coordinate the mechanical operations to

achieve a predetermined node density and yield because all agricultural methods are aimed at achieving desired yield and quality goals.

Claims 63-66 are rejected under 35 U.S.C. §103(a) as being unpatentable over Brumat (US 4,257,213) in view of Green (US 3,232,034) Hiyama et al. (US 4,255,922), Facts for Fancy Fruit (96-06, Dep't of Hort., Purdue Univ.), and Mead et al. (US 4,383,400).

As to claims 63-66, the limitations of claim 38 are disclosed as described above. Not disclosed is the method(apparatus) step comprising canopy or leaf removal. Mead et al., however, discloses an apparatus for leaf removal ("foliage trimming" of col. 2 lines 46-50). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the apparatus of Brumat as modified by Green, Hiyama et al., and Fancy Fruit by adding a means for leaf removal as disclosed by Mead et al. so as to promote higher yield (col. 1 lines 15-18) and to modify this step as to its time of implementation depending upon growing practices that are well known in the viticultural art and to use the different trellis systems depending upon availability and ease of use and to coordinate the mechanical operations to achieve a predetermined node density and yield because all agricultural methods are aimed at achieving desired yield and quality goals.

Response to Arguments

Applicant's arguments filed 21 March 2007 have been fully considered but they are not persuasive. Applicants' arguments are: (1) no reference discloses or suggests all the claimed mechanical devices together (Remarks top half of page 12 and last 9 lines of page 12); and, (2)

no reference discloses or suggests one specific device for use in a coordinated manner with any of the steps (Remarks middle of page 12).

As to argument (2) again Examiner considers it obvious to one of ordinary skill in the agronomic/horticultural arts to add more "tools" to one machine/vehicle. Brumat, in fact, discloses the combining of sucker removal, bud removal, and topping of vines. Further, Mead et al., discloses a machine for both leaf and fruit removal and positioning (Mead et al. at col. 1 lines 30-32). Further, many agricultural implements are pulled by a tractor. These then are mounted to the same vehicle even if not at the same time. The Supreme Court has recently stated that their "precedents make clear . . . the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ" (*KSR International Co. v. Teleflex Inc. et al.* (2007, slip opinion no. 04-1350, at page 14). Here, given the examples of Brumat and Mead it would obvious for one of ordinary skill in the art to infer the combination and mechanization of agricultural tools and steps.

As to argument (2), Examiner considers all agricultural and horticultural tools and husbandry steps are designed to coordinate together to achieve greater yield and quality for the producer.

Conclusion

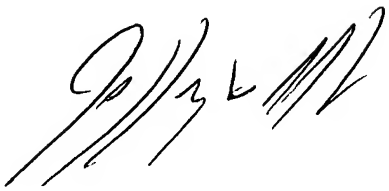
Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey L. Gellner whose telephone number is 571.272.6887. The examiner can normally be reached on Monday-Friday, 8:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Poon can be reached on 571.272.6891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Jeffrey L. Gellner
Primary Examiner
Art Unit 3643